

AMENDMENT TO THE CLAIMS

Replace the claims with the following revised version:

1. – 14. (Canceled)

15. (Previously Amended) A cleaning method for an ALD thin film deposition equipment comprising a reactor including a reactor block on which a wafer is mounted, a wafer block installed within the reactor block, on which the wafer is seated, and a diffusion plate having a plurality of spray holes formed over the wafer block and a plurality of nozzles slanted toward the inner sidewall of the reactor block to spray a gas toward the edges of the wafer block, the cleaning method comprising:

performing a main cleaning process in a state where no wafers are received within the reactor, including spraying a mixture of a cleaning gas and an inert gas onto the wafer through the spray holes and spraying the inert gas toward edges of the wafer block through the nozzles.

16. (Previously Amended) The cleaning method of claim 15, wherein the main cleaning process further comprises setting the flow rate of the cleaning gas 50 SCCM or higher, and the inert gas mixed with the cleaning gas to the spray holes to be at 50 SCCM or higher, and setting the flow rate of the inert gas to the nozzles to be at 300 SCCM or higher.

17. (Previously Amended) The cleaning method of claim 16, further comprising setting the inside pressure of the reactor to be 0.5 to 10 torr.

18. (Previously Amended) The cleaning method of claim 16, further comprising setting the inside surface temperature of the reactor except for the wafer block to be 200 °C or less.

19. (Previously Amended) The cleaning method of claim 15, further comprising performing a sub cleaning process in a state where no wafers are received within the reactor, including

pulse-introducing the cleaning gas into the reactor to induce instantaneous diffusion due to a pressure fluctuation.

20. (Previously Amended) The cleaning method of claim 19, wherein the sub cleaning process further comprises setting the flow rate of the cleaning gas to be at 50 SCCM or higher, setting the flow rate of the inert gas mixed with the cleaning gas to the spray holes to be at 50 SCCM or higher, and setting the flow rate of the inert gas to the nozzles to be at 300 SCCM or higher.

21. (Previously Amended) The cleaning method of claim 19, further comprising setting the inside pressure of the reactor to be 0.5 to 10 torr.

22. (Previously Amended) The cleaning method of claim 19, further comprising setting the inside surface temperature of the reactor except for the wafer block to be 200 °C or less.

23. (Previously Amended) The cleaning method of claim 15, further comprising performing a pre-coating process in a state where no wafers are received within the reactor, including adhering fine particles remaining within the reactor to the inside surface of the reactor.--

24. (Previously Amended) The cleaning method of claim 23, wherein the pre-coating process comprises spraying a first mixture gas of a first reaction gas and the inert gas onto the wafer block through the spray holes, and spraying a second mixture gas of a second reaction gas and the inert gas toward edges of the wafer block through the nozzles.--

25. (Previously Amended) The cleaning method of claim 23, wherein the pre-coating process comprises introducing a first mixture gas of a first reaction gas and the inert gas; introducing the inert gas without the first reaction gas for a predetermined period of time; introducing a second mixture gas of a second reaction gas and the inert gas into the reactor; and introducing the inert gas without the second reaction gas for a predetermined period of time.

26. (Previously Amended) The cleaning method of claim 23, wherein the pre-coating process comprises introducing a first mixture gas of a first reaction gas and the inert gas and introducing the inert gas without the first reaction gas for a predetermined period of time in a state where a second reaction gas and the inert gas are continuously introduced into the reactor.

27. (Previously Amended) The cleaning method of claim 23, wherein the pre-coating process comprises introducing NH_3 gas into the reactor at least several seconds before introducing a first reaction gas into the reactor, when a compound gas containing Cl is used as the first reaction gas, and the NH_3 gas is used as a second reaction gas.

28. (Original) The cleaning method of claim 15, wherein the cleaning gas is ClF_3 .